Human Science/Modeling and Analysis Data (HSMAD) Project

Background:

The modeling and analysis community has long recognized that warrior performance data describing combat engagements closer than 100 meters during military operations in urban terrain (MOUT) are very limited. Examples of these data include target detection and engagement; troop movement rates for approaches to urban areas and during room clearing operations; and platoon/squad leader decision making. Additionally, current constructive models only permit the representation of a limited set of battlefield stressors (e.g., ballistic casualties, heat stress, etc.) because the underlying data for these stressors are often rudimentary. Therefore, MOUT performance data and other supporting data (e.g., equipment performance characteristics, weather effects, etc.) are critically needed for dismounted warrior modeling and analysis.

Objective:

To address this recognized need and to support the Infantry Warrior Simulation (IWARS) Army Technology Objective (ATO), HSMAD must be obtained through field studies and data mining. To fill the identified data gaps, the Natick Soldier Center (NSC) has teamed with the following organizations for their capabilities in these critical areas: the U.S. Army Materiel Systems Analysis Activity (AMSAA) for weapons effects data and military subject-matter experts; the U.S. Army Research Laboratory (ARL) for human factors; and the U.S. Army Training and Doctrine Command (TRADOC) Soldier Battle Lab (DBBL) for test facilities and soldier participants; and Anteon for modeling software and data warehouse development.

Approach:

The HSMAD Study Team will achieve this objective in the following manner:

- Identify, prioritize, and collect human performance data that accurately represent both individual and small units in the close combat/MOUT environment for modeling and analysis efforts conducted under the IWARS ATO and other associated programs;
- Execute field studies with dismounted soldiers and develop data mining methodologies for extracting meaningful data from existing sources;
- Provide the data in a timely manner to the IWARS ATO Team for their use in the development, verification, and validation of the IWARS constructive simulation; and
- Implement the on-line Data Access and Retrieval Tool (DART) to provide DoD and international analysts access to the data in a secure manner.

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